UTILITY GRID-INTERACTIVE POWER CONVERTER WITH RIPPLE CURRENT CANCELLATION USING SKEWED SWITCHING TECHNIQUES

Abstract

The invention is an electrical power conversion apparatus for converting DC voltage to poly-phase AC current where the AC current is supplied directly to the electric utility grid for power transfer into the grid. The power conversion apparatus has two or more separate, pulse modulated, high frequency power converters per phase. The outputs of the power converters are summed at a common connection point substantially on the load side of the main pulse filter inductors. The high frequency pulse train of each separate power converter is skewed or phase delayed with respect to the other converters on the same AC power phase for the purpose of reducing the amount of high frequency ripple current injected into the electric utility grid.